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June 30, 2003

Mr. Mark Brown and Mr. Mark Smythe
California Regional Water Quality Board
Santa Ana Region
3737 Main Street, Suite 500
Riverside, CA 92501-3348

Re: Review of Orange County Drainage Area Management Plan Section 7 and Model Water Quality Management Plan

Dear Mr. Brown and Mr. Smythe:

On behalf of the Natural Resources Defense Council and Defend the Bay, I have reviewed the Orange County Drainage Area Management Plan (DAMP) Section 7 and Model Water Quality Management Plan (WQMP) submitted to the California Regional Water Quality Control Board, Santa Ana Region, on February 28, 2003. My review concentrated on technical aspects of subject documents and follows assessments of the preceding version of the DAMP. I submitted my comments on those assessments in letters to Mr. Gerald Thibeault, Executive Officer of the Santa Ana Regional Board, on July 19, 2002, October 19, 2001, and November 15, 2001. The first and third of those letters present my credentials, which I summarize briefly here.

I have 26 years of experience in the urban stormwater management field and 11 additional years of engineering practice. During this period I have performed research, taught, and offered consulting services on all aspects of the subject, including investigating the sources of pollutants and other causes of aquatic ecological damage, impacts on organisms in waters receiving urban stormwater drainage, and the full range of methods of avoiding or reducing these impacts. My background includes 10 years of this type of work in Southern California, where I have been a federal court-appointed overseer of stormwater program development and implementation at the city and county level and for two Caltrans districts.

My general assessment is that the current DAMP and associated materials represent an improvement over its predecessor. However, the submittals still do not provide a sufficient foundation for Orange County's stormwater program. The Santa Ana Regional Board in its May 21, 2003 comment letter to Orange County noted many reasons for reaching this conclusion. I agree with <u>all</u> of the improvements called for by the Regional Board; and they reflect many, although not all, of my objections. I do not reiterate all of the Board's comments in this letter but do add my views about some of the most crucial ones. I also include my opinions on some issues not raised by the Board.

Drainage Area Management Plan

Section 7.2.1, page 7-4: The Task Force composition was extremely unbalanced. While a wide range of business interests was represented, there was no citizen or environmental group presence at all. This organization was contrary to the Regional Board's recommendation and good sense. The interest of the citizens and the groups that speak for them was plainly evident over the past two years. In my experience in developing storm water pollution reduction programs, a permittee cannot expect to have an efficient, smooth process of producing a program acceptable under the law and to its constituents when only some perspectives are heard.

Section 7.4.3, page 7-13: I disagree strongly with the assertion that water quality protection through stormwater management may be unnecessary in built-out, inland cities having no sensitive water resources. Such areas usually are hydraulically connected, without interruption of pollutant transport, to other water resources downstream, where beneficial uses may very well be threatened by sources anywhere in the contributing watershed. Furthermore, land use changes through redevelopment of a built-out area could certainly increase pollutant discharges.

Section 7.6.2, page 26, and elsewhere: The first bullet states that treatment requirements apply only to the additional development in a redevelopment action, and not the existing development, if impervious surface increases less than 50 percent. Is it a correct interpretation that the entire development, existing and new, would then have treatment requirements if the impervious cover increases by 50 percent or more? That conclusion can be inferred but is not stated. This confusion must be cleared up. The usual theory of stormwater management coverage of redevelopment, practiced in Los Angeles County among many other locations, is that the only possible way anti-degradation of water resources can possibly be achieved in the face of development growth is if redeveloping land gradually comes under effective management. Thus, beyond some minimum threshold level, the entire parcel is subject to the requirements applied to new development. An increase of 50 percent of the prime factor in water quality degradation is far too high a threshold, and it is not even perfectly clear from the DAMP's statement if greater impervious surface does, in fact, trigger full coverage.

Section 7.6.3, page 31: The construction-phase conditions placed on projects adjacent to beaches should apply to projects adjacent to any receiving water, as well as projects that drain into any receiving water. It is equally appropriate in those cases to secure materials, wastes, stockpiles, etc. to prevent pollutant transport. This requirement should be made general.

Section 7.6.3, page 32: It is required that drainage facilities discharging onto adjacent properties shall imitate the manner in which runoff is presently crossing. This provision completely ignores the likelihood that the quantity of discharge will substantially increase in the developed compared to pre-development state. Discharging much more water in the same manner is a prescription for erosion, property damage, and perhaps even slope failure.

Section 7.6.3, page 32: The provisions on industrial facilities do not provide for any meaningful checks. County staff should regularly inspect industrial facilities to determine if the required

Stormwater Pollution Prevention Plans (SWPPPs) are in order, are being implemented effectively, and are adequate to prevent the introduction of industrial contaminants to stormwater runoff.

Table 7-2 and elsewhere: Projects are only advised to consider Site Design BMPs. This is a very weak endorsement of a valuable set of practices preventive of problems associated with stormwater runoff. Designers should be required to assess their sites for applicability of beneficial practices and incorporate those identified as useable (see related comment on WQMP Table 7.II-4 below).

Section 7.6.5, page 37: Why would permittees just encourage but not require applicants to obtain WQMP approval before submitting construction plans? The elements of the WQMP are part of the construction, like any other aspect of the project, and should be assessed just as thoroughly.

Section 7.6.5, page 37: The Regional Board's May 21, 2003 letter addressed important issues regarding soil stockpile containment and eliminating an unauthorized non-stormwater discharge to which I want to add my support.

Section 7.6.5, page 38: The second-to-last bullet in the list allows discharge of materials other than stormwater if they do not cause or contribute to a violation of any water quality standard. There is no basis to make such a determination, and no monitoring is prescribed to determine whether or not a violation occurs. All releases other than stormwater should be prohibited, except for the standard list of authorized non-stormwater discharges.

Model Water Quality Management Plan

Section 7.II-1.0, page 2 and elsewhere: While joining in a regional watershed management program, and utilizing regional Treatment BMPs, can certainly yield benefits to both project proponents and the environment, it is essential that several safeguards be established to ensure that regional participation meets the intent and requirements of the permit and the county's stormwater management program. The regional facility must be fully ready for service when it will receive runoff from any project. It must be sufficient in size to accept the project's runoff and any runoff that could flow to it in the future. The facility must have the necessary capabilities to address the pollution problems posed by the project. There must be a guarantee of future maintenance and funding for that purpose. The documents should place these specific conditions on the use of regional approaches.

Table 7.II-2: Analyses of pavement runoff routinely exhibit pathogens. Commercial and industrial sites are certainly substantial sources of metals. The table should reflect these facts.

Section 7.II-3.2.3, page 8: I want to add my voice to that of the Regional Board in demanding that applicants consider receiving waters to encompass all affected aquatic resources from their project all the way downstream to the ocean.

Section 7.II-3.2.4, pages 11-12: I wish to add my endorsement of the important principle enunciated by the Regional Board in its May 21, 2003 letter that the permittee must consider cumulative effects of all potential development to the build-out stage.

Section 7.II-3.3.1, page 13: I agree with the Regional Board that Site Design BMPs, by themselves, will almost never entirely obviate the need for Source Control and/or Treatment BMPs.

Section 7.II-3.3.2, pages 20-23: Along with the Regional Board I agree that inspection and enforcement procedures and programs must be established to ensure that permit requirements are met.

Table 7.II-4: What does the "C" designation actually mean? The definition states, "Consider and select one or more applicable BMPs." As associated with Site Design BMPs, does that mean that it is a requirement to use at least one BMP found to be applicable? DAMP Table 7-2 and elsewhere do not state the use of applicable Site Design BMPs as a requirement, which it should be.

Section 3.3.3, page 35 and elsewhere: It is not a proper application of the BMP sizing method to use a regional average rainfall quantity for the 24-hour, 85th percentile storm event. Rainfall statistics vary considerably in Orange County, and an appropriate value for the location being considered must be used.

Table 7.II-6: I disagree with some of the BMP effectiveness ratings. Detention basins are no better than medium in capturing any pollutant but trash and debris. Properly functioning infiltration basins are high in all of their efficiencies; in fact, they frequently infiltrate all runoff and are thus 100 percent effective in stopping surface water pollution. Filtration is low-medium in nutrient reduction capability. Hydrodynamic separator systems capture only the largest solids, for which they are relatively efficient. However, their effectiveness in total suspended solids reduction is very low.

Section 7.II-3.3.4, page 38: There is now a tendency to drop the automatic restriction of infiltration basins to serve areas subject to high vehicular traffic. The Los Angeles Regional Water Quality Board has been very encouraging and accepting of a just-completed Caltrans infiltration basin siting study, which identified 12 potential sites for infiltration basins within or adjacent to the rights of way of extremely heavily traveled Los Angeles-area freeways. The study was very careful and thorough in its concern with groundwater contamination potential due to excessively rapid infiltration or mobilization of contaminants already present below ground. The study also produced an extensive decision matrix to take these and many other issues into account in considering infiltration facilities. This unnecessary restriction should be deleted in favor of a comprehensive site-specific evaluation of the workability of infiltration.

Section 7.II-6.0, page 41: Waiver of Treatment BMP requirements is a serious matter subject to abuse by project proponents and permittees. This section does not cover the subject sufficiently for me to tell if adequate safeguards will be in place to ensure that waivers will be a rare

exception. What criteria should permittees use to determine if a waiver is warranted and sufficiently justified by a proponent? The sentence, "Waivers may only be granted for structural Treatment Control BMP and structural Treatment Control BMP sizing requirements," is not entirely clear. I think it means that these BMPs could be waived entirely, or they could be sized smaller than the standards, but that Site Design and Source Control BMP requirements cannot be waived. The statement should be rewritten for greater clarity. How is it to be determined if a waiver will cause or contribute to an exceedence of water quality objectives? A "statement of overriding considerations" tells me nothing about how it will be used in judging waiver petitions.

Attachment A, pages 45-46: The 1986 Orange County Hydrology Manual is obsolete. The Rational Method peak runoff rate estimation technique dates to 1851 for sewer design. Its weaknesses are numerous and manifest. No informed hydrologist uses this method for these purposes. The use of such a crude procedure will lead to improperly sized facilities, which might either be inadequate for their task or oversized. The latter outcome will increase waiver applications. It is irresponsible to rest quantitative aspects of this extensive and important program on a method discredited in the professional community. The county should posthaste retain competent hydrologic advisors to bring its methodology up to date.

I would be pleased to discuss my comments with you and invite you to contact me if you wish to do so.

Sincerely,

Richard R. Horner

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